This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-22. (Canceled)

23. (Original) A method of enhancing the circulating half life of arginine deiminase comprising modifying said arginine deiminase by covalently bonding said arginine deiminase via a linking group to polyethylene glycol,

wherein the arginine deiminase is derived from a microorganism of the genus selected from the group consisting of: *Steptococcus, Borrelia, Qiardia, Clostridium, Enterococcus, Lactobacillus,* and *Bacillus*;

wherein the polyethylene glycol has a total weight average molecular weight of from about 1,000 to about 40,000, and

wherein the linking group is selected from the group consisting of a succinimide group, an amide group, an imide group, a carbarmate group, an ester group, an epoxy group, a carboxyl group, a hydroxyl group, a carbohydrate, a tyrosine group, a cysteine group, a histidine group and combinations thereof.

24. (Original) A method of enhancing the tumoricidal activity of arginine deiminase comprising modifying said arginine deiminase by covalently bonding said arginine deiminase via a linking group to polyethylene glycol,

wherein the arginine deiminase is derived from a microorganism of the genus selected from the group consisting of: *Steptococcus, Borrelia, Qiardia, Clostridium, Enterococcus, Lactobacillus,* and *Bacillus*;

wherein the polyethylene glycol has a total weight average molecular weight of from about 1,000 to about 40,000, and

wherein the linking group is selected from the group consisting of a succinimide group, an amide group, an imide group, a carbamate group, an ester group, an epoxy group, a carboxyl group, a hydroxyl group, a carbohydrate, a tyrosine group, a cysteine group, a histidine group and combinations thereof.

25. (Previously Presented) A method of treating a tumor in a patient comprising administering to said patient a compound comprising arginine deiminase covalently bonded via a linking group to polyethylene glycol,

wherein the arginine deiminase is derived from a microorganism of the genus selected from the group consisting of: *Steptococcus, Borrelia, Qiardia, Clostridium, Enterococcus, Lactobacillus,* and *Bacillus*;

wherein the polyethylene glycol has a total weight average molecular weight of from about 1,000 to about 40,000, and

wherein the linking group is selected from the group consisting of a succinimide group, an amide group, an imide group, a carbamate group, an ester group, an epoxy group, a carboxyl group, a hydroxyl group, a carbohydrate, a tyrosine group, a cysteine group, a histidine group and combinations thereof.

26. (Original) The method of claim 25, wherein said tumor is a melanoma.

27. (Original) The method of claim 26, wherein said polyethylene glycol has a total weight average molecular weight of about 20,000.

28. (Original) The method of claim 26, wherein said linking group is a succinimide group.

29. (Original) The method of claim 28, wherein said succinimide group is succinimidyl succinate, succinimidyl propionate, succinimidyl carboxymethylate, succinimidyl succinamide, N-hydroxy succinimide or combinations thereof.

30. (Original) The method of claim 25, wherein said tumor is a hepatoma.

31. (Currently amended) The method of claim 30, wherein said polyethylene glycol has a total weight average molecular weight of about ~~5,000~~ 20,000.

32. (Original) The method of claim 30, wherein said linking group is a succinimide group.

33. (Original) The method of claim 32, wherein said succinimide group is succinimidyl succinate, succinimidyl propionate, succinimidyl carboxymethylate, succinimidyl succinamide, N-hydroxy succinimide or combinations thereof.

34. (Original) The method of claim 25, wherein said tumor is a sarcoma.

35. (Previously Presented) A method of treating and inhibiting metastases in a patient comprising administering to said patient a compound comprising arginine deiminase covalently bonded via a linking group to polyethylene glycol,

wherein the arginine deiminase is derived from a microorganism of the genus selected from the group consisting of: *Steptococcus, Borrelia, Qiardia, Clostridium, Enterococcus, Lactobacillus,* and *Bacillus*;

wherein the polyethylene glycol has a total weight average molecular weight of from about 1,000 to about 40,000, and

wherein the linking group is selected from the group consisting of a succinimide group, an amide group, an imide group, a carbamate group, an ester group, an epoxy group, a carboxyl group, a hydroxyl group, a carbohydrate, a tyrosine group, a cysteine group, a histidine group and combinations thereof.

36. (New) The method of claim 34, wherein said polyethylene glycol has a total weight average molecular weight of about 20,000.

37. (New) The method of claim 34, wherein said linking group is a succinimide group.

38. (New) The method of claim 37, wherein said succinimide group is succinimidyl succinate, succinimidyl propionate, succinimidyl carboxymethylate, succinimidyl succinamide, N-hydroxy succinimide or combinations thereof.